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EXAMINER	
CHAN, RICHARD	

ART UNIT	PAPER NUMBER
2618	

DATE MAILED: 07/31/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	10/656,152	KIM ET AL.
	Examiner	Art Unit
	Richard Chan	2618

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 May 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *08 September 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 6/2/2006 have been fully considered but they are not persuasive.

With respect to applicant's arguments stating that the Lim et al. reference does not teach a phase locked loop for receiving a reference frequency signal and a signal output from a voltage controlled oscillator and for generating a control voltage for controlling the frequency of the signal output from the voltage controlled oscillator, examining Fig. 8, all the limitations are met. Lim an **RF PLL circuitry 840** which receives a **reference frequency signal 220** from **reference generator circuitry 218** and a signal output from the **voltage controlled oscillator 222** and for generating a control voltage for controlling the frequency of the **signal 454** output from the voltage controlled oscillator. Col.14 lines 40- Col.18 lines 14 describe the Circuit of Fig.8 more clearly, however passages Col.15 lines 18- 34 specifically disclose the reference signal generator, Col. 15 lines 61-66 specifically disclose the RF PLLL circuitry 840.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1, 5, 6, 8, 10,14, and 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lim US 6,993,314) in view of Jerng (US 2003/0114129) and Matero (US 6,215,988).

With respect to claim 1, Lim discloses the multiband receiving apparatus in Fig.8, comprising: a phase locked loop 222 for receiving a reference frequency signal from 218 and a signal output 454 from a voltage controlled oscillator and for generating a control voltage for controlling the frequency of the signal output from the voltage controlled oscillator block; and a down mixer 409, including a plurality of transistors, for receiving the control voltage, Lim however does not specifically disclose wherein the multiband receiving apparatus comprises for controlling an input voltage applied to the gate of a transistor acting as a source among the transistors, for operating at a frequency band that is adjusted by the control voltage, and for converting the amplified signal into a low-frequency band signal. a low noise amplifier for receiving the control voltage, for operating at a frequency band that is adjusted by the control voltage, and for amplifying a received signal while suppressing a noise signal in the received signal;

The Jerng reference however discloses a frequency downconveter 663, which discloses an input voltage, applied to the gate of a transistor acting as a source among the transistors, for operating at a frequency band that is adjusted by the control voltage, and for converting the amplified signal into a low-frequency band signal.

And the Matero reference discloses a low noise amplifier 58 for receiving the control voltage, for operating at a frequency band that is adjusted by the control voltage,

and for amplifying a received signal while suppressing a noise signal in the received signal.

It would have been obvious to one of ordinary skill in the art to implement the frequency down converter as disclosed by Jerng as the frequency down converter implemented by Lim in order to control the operating frequency dictated by the control voltage, and also implementing the low noise amplifier of Matero as the programmable amplifiers as disclosed by Lim in order to operate at the correct frequency band.

With respect to claim 5, Lim, Jerng, and Matero combined disclose the multiband receiving apparatus as claimed in claim 1, Jerng continues to disclose wherein the down mixer comprises a plurality of transistors, and wherein at least one of the plurality of transistors operates as a current source and at least one of the plurality of transistors operates as a load, and the down mixer controls an amount of current flowing from the transistor operating as the source to the transistor operating as the load using the control voltage from the phase locked loop, thereby adjusting an operating frequency band of the multiband receiving apparatus [0039].

With respect to claim 6, Lim discloses the multiband transmitting apparatus, comprising: a phase locked loop 55 for receiving a reference frequency signal 75 and a signal output from a voltage controlled oscillator 72 and for generating a control voltage for controlling the frequency of the signal output from the voltage controlled oscillator 76; an up mixer 466, however Lim does not specifically disclose wherein the

transmitting apparatus includes a plurality of transistors, for receiving the control voltage, for controlling an input voltage applied to a gate of one of the plurality of transistors that operates as a source, for operating at a frequency band, and for converting a transmitting signal into a high-frequency band of signal; and a power amplifier for receiving the control voltage, for operating with a gain that is adjusted by the control voltage, and for amplifying the converted signal by the adjusted gain.

The Jerng reference however discloses wherein the receiving apparatus includes a plurality of transistors, for receiving the control voltage, for controlling an input voltage applied to a gate of one of the plurality of transistors that operates as a source, for operating at a frequency band, and for converting a transmitting signal into a high-frequency band of signal, it is well known in the art that the mixer configuration can be used as an down converter and as an upconverter.

And the Matero reference discloses wherein a power amplifier 58 for receiving the control voltage, for operating with a gain that is adjusted by the control voltage, and for amplifying the converted signal by the adjusted gain

It would have been obvious to one of ordinary skill in the art to implement the architecture of the frequency down converter as disclosed by Jerng as the frequency up converter implemented by Lim in order to control the operating frequency dictated by the control voltage, and also implementing the low noise amplifier of Matero as the programmable amplifiers as disclosed by Lim in order to operate at the correct frequency band.

With respect to claim 8, Lim, Jerng, and Matero combined disclose the multiband transmitting apparatus as claimed in claim 6, Jerng continues to disclose the architecture wherein the down mixer, fig.9 comprises a plurality of transistors, and wherein at least one of the plurality of transistors operates as a current source and at least one of the plurality of transistors operates as a load, and the down mixer controls an amount of current flowing from the transistor operating as the source to the transistor operating as the load using the control voltage from the phase locked loop to adjust an operating frequency band, it is well known in the art that the mixer configuration can be used as an down converter and as an upconverter.

It would have been obvious to one of ordinary skill in the art to implement the architecture of the frequency down converter as disclosed by Jerng as the frequency up converter implemented by Lim in order to control the operating frequency dictated by the control voltage.

With respect to claim 10, Lim discloses the multiband transmitting and receiving apparatus in Fig.8, comprising: a phase locked loop 222 for receiving a reference frequency signal from generator 218 and a signal output from a voltage controlled oscillator 454 and for generating a control voltage for controlling a frequency of the signal output from the voltage controlled oscillator within 222; a low noise amplifier 824, a down mixer 409, up mixer 466, however Lim does not specifically discloses wherein the multiband receiver specifically comprises the low noise amplifier for receiving the control voltage, for operating at a frequency band that is adjusted by the control voltage,

and for amplifying a received signal without amplifying a noise signal in the receiving signal; a down mixer, including a plurality of transistors, for receiving the control voltage, for controlling an input voltage applied to the gate of one of the plurality of transistors acting as a source, for operating at a frequency band that is adjusted by the control voltage, and for converting the amplified signal into a low-frequency band signal; an up mixer, including a plurality of transistors, for receiving the control voltage, for controlling an input voltage applied to the gate of one of the plurality of transistors acting as a source, for operating at a frequency band that is adjusted by the control voltage, and for converting a transmitting signal into a high-frequency band signal; and a power amplifier, which receives the control voltage, for operating with a gain that is adjusted by the control voltage and for amplifying the converted signal by the adjusted gain.

The Jerng reference however discloses a frequency downconveter 49, which discloses an input voltage, applied to the gate of a transistor acting as a source among the transistors, for operating at a frequency band that is adjusted by the control voltage, and for converting the amplified signal into a low-frequency band signal, it is well known in the art that the mixer configuration can be used as an down converter and as an upconverter.

And the Matero reference discloses a low noise amplifier 58 for receiving the control voltage, for operating at a frequency band that is adjusted by the control voltage, and for amplifying a received signal while suppressing a noise signal in the received signal.

It would have been obvious to one of ordinary skill in the art to implement the architecture of the frequency down converter as disclosed by Jerng as the frequency up and down converter implemented by Lim in order to control the operating frequency dictated by the control voltage from the PLL, and also implementing the low noise amplifier of Matero as the programmable amplifiers as disclosed by Lim in order to operate at the correct frequency band.

With respect to claim 14, Lim discloses a data receiving method, which is implemented on multiple frequency bands, comprising: (a) receiving a signal from antenna 130; (b) receiving a reference frequency signal from generator 218 and a signal output from a voltage controlled oscillator 222 and controlling a control voltage that controls a frequency of the signal output from the voltage controlled oscillator 454 and 457, and an adjustment of the amplification, and a conversion method of the amplified signal, however Lim does not specifically disclose wherein the data receiving method comprises (c) receiving the control voltage, adjusting an operating frequency band, operating at the adjusted frequency band, and amplifying a received signal while suppressing a noise signal in the received signal; and (d) receiving the control voltage, controlling an input voltage applied to a gate of a transistor operating as a source using the control voltage to adjust an operating frequency band, operating at the adjusted frequency band, and converting the amplified signal into a low-frequency band signal.

The Matero reference however discloses the receiving the control voltage, adjusting an operating frequency band, operating at the adjusted frequency band, and

amplifying a received signal while suppressing a noise signal in the received signal with amplifier 58.

And the Jerng reference discloses the receiving the control voltage, controlling an input voltage applied to a gate of a transistor operating as a source using the control voltage to adjust an operating frequency band, operating at the adjusted frequency band, and converting the amplified signal into a low-frequency band signal with down converter 663.

It would have been obvious to one of ordinary skill in the art to implement the method of amplifying the received signal and controlling such a signal with a control voltage, as disclosed by Matero in order to produce a stable amplification of the received signal to the receiver, and it would have been obvious to implement the method of controlling an input voltage to the gate of a transistor of Jerng in order to adjust the operating frequency band of the downconverter of Lim.

With respect to claim 16, Lim, Matero, and Jerng combined disclose the data receiving method as claimed in claim 14, however Jerny continues to disclose wherein in a down mixer 49 including a plurality of transistors, wherein at least one of the plurality of transistors operates as a current source and at least one of the plurality of transistors operates as a load, (d) comprises: controlling an amount of current flowing from the transistor operating as the source to the transistor operating as the load, using the control voltage, to adjust an operating frequency band of the down mixer [0039].

It would have been obvious to one of ordinary skill in the art to implement the frequency down converter as disclosed by Jerng as the frequency down converter

implemented by Lim in order to control the operating frequency dictated by the control voltage.

With respect to claim 17, Lim disclose the data transmitting method, which is implemented on multiple frequency bands, comprising: (a) receiving a signal from antenna 130; (b) receiving a reference frequency signal from reference generator circuitry 218 and a signal output from a voltage controlled oscillator 222 and generates a control voltage 454 and 457 that controls a frequency of the signal output from the voltage controlled oscillator 222; and up converter 466, and amplifiers 894' however Lim does not specifically disclose wherein the data transmitting method is (c) receiving the control voltage, controlling an input voltage applied to a gate of a transistor operating as a source using the control voltage to adjust an operating frequency band, operating at the adjusted frequency band, and converting the received signal into a high-frequency band signal; and (d) receiving the control voltage to adjust the gain and amplifying the converted signal by the adjusted gain.

The Jerng reference however discloses the receiving of the control voltage, controlling an input voltage applied to a gate of a transistor operating as a source using the control voltage to adjust an operating frequency band, operating at the adjusted frequency band, and converting the received signal into a baseband signal with mixers 49, however it would have been obvious to implement the architecture of the mixers and implement them as up converter mixers.

The Matero reference discloses receiving the control voltage to adjust the gain and amplifying the converted signal by the adjusted gain with amplifier 58.

It would have been obvious to one of ordinary skill in the art to implement the mixer as disclosed by Jerng as the up converter mixer in the Lim receiver in order to control the frequency band that the mixer will be operating in, and to implement the LNA amplifer with a controllable gain as disclosed by Matero in order to properly control the amplitude of output signal of the transmitter.

With respect to claim 18. Lim, Jerng, and Matero combined disclose the data transmitting method as claimed in claim 17, however Jerng in Fig.9 discloses wherein in an down mixer 49 including a plurality of transistors, wherein at least one of the plurality of transistors operates as a current source and at least one of the plurality of transistors operates as a load, (c) comprises: controlling an amount of current flowing from the transistor operating as the source to the transistor operating as the load, using the control voltage, to adjust an operating frequency band.

It would have been obvious to one of ordinary skill in the art to implement the architecture of the down mixer as disclosed by Jerng as the architecture for an up mixer in the receiver disclosed by Lim in order to control the frequency band that is in operation.

4. Claims 2, 3, 9, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lim (US 6,993,314), Jerng (US 2003/0114129) and Matero (US 6,215,988) in view of Komori (US 5,929,716).

With respect to claim 2, Lim, Jerng, and Matero combined disclose the multiband receiving apparatus as claimed in claim 1, however they do not specifically disclose wherein the low noise amplifier comprises: an LC resonance circuit having an inductor and a capacitor, wherein a capacitance of the capacitor is adjusted by the control voltage provided by the phase locked loop to change a resonance frequency of the LC resonance circuit.

The Komori reference however discloses wherein the low noise amplifier comprises: an LC resonance circuit having an inductor and a capacitor, wherein a capacitance of the capacitor is adjusted by the control voltage provided by the phase locked loop to change a resonance frequency of the LC resonance circuit. Fig.1

It would have been obvious to one of ordinary skill in the art to implement a low noise amplifier with a LC resonance circuit in order to control the gain of the circuit by adjusting the control voltage to the LC resonance circuit.

With respect to claim 3, Jerng, and Matero combined disclose the multiband receiving apparatus as claimed in claim 1, however the Kimori reference discloses wherein the low noise amplifier has a cascade structure capable of minimizing a noise property and comprises: an inductive source generator for performing impedance matching.

It would have been obvious to one of ordinary skill in the art to implement an inductive source generator for impedance matching as disclosed by Kimori in order to remove distortion caused by the amplification of the signal.

With respect to claim 9, Lim, Jerng, and Matero combined disclose the multiband transmitting apparatus as claimed in claim 6, however they do not specifically disclose wherein the power amplifier has a cascade structure including a plurality of terminals and comprises: an LC resonance circuit having an inductor and a capacitor, wherein a capacitance of the capacitor is adjusted using the control voltage provided by the phase locked loop to change a resonance frequency of the LC resonance circuit, to adjust a gain of the power amplifier.

The Komori reference however discloses wherein the low noise amplifier comprises: an LC resonance circuit having an inductor and a capacitor, wherein a capacitance of the capacitor is adjusted by the control voltage provided by the phase locked loop to change a resonance frequency of the LC resonance circuit. Fig.1

It would have been obvious to one of ordinary skill in the art to implement a low noise amplifier with a LC resonance circuit in order to control the gain of the circuit by adjusting the control voltage to the LC resonance circuit.

With respect to claim 15, Lim, Jerng, and Matero combined disclose the data receiving method as claimed in claim 14, however they do not disclose specifically wherein in a low noise amplifier including an LC resonance circuit including an inductor and a capacitor, (c) comprises: adjusting a capacitance value of the capacitor using the control voltage; and changing a resonance frequency of the LC resonance circuit to adjust the operating frequency band of the low noise amplifier.

The Komori reference however discloses wherein in a low noise amplifier including an LC resonance circuit including an inductor and a capacitor, (c) comprises:

adjusting a capacitance value of the capacitor using the control voltage; and changing a resonance frequency of the LC resonance circuit to adjust the operating frequency band of the low noise amplifier. Fig.1

It would have been obvious to one of ordinary skill in the art to implement a low noise amplifier with a LC resonance circuit in order to control the gain of the circuit by adjusting the control voltage to the LC resonance circuit.

5. Claim 4 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lim (US 6,993,314), Jerng (US 2003/0114129) and Matero (US 6,215,988) in view of Davis (US 5,929,708).

With respect to claim 4, Davis discloses the multiband receiving apparatus as claimed in claim 1, wherein the down mixer has a Gilbert-type structure Fig.1.

It would have been obvious to implement a Gilbert type mixer in the multiband apparatus of Lim in order to properly mix the controlled oscillation signal from the PLL with the received signal.

With respect to claim 7, Davis discloses the multiband receiving apparatus as claimed in claim 1, wherein the down mixer has a Gilbert-type structure Fig.1.

It would have been obvious to implement a Gilbert type mixer in the multiband apparatus of Lim in order to properly mix the controlled oscillation signal from the PLL with the received signal.

6. Claim 11, 12, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lim (US 6,993,314) in view of Komori (US 2005/0014476).

With respect to claim 11, Lim discloses a low noise amplifier 824 used in an RF transceiver 800, comprising: a phase locked loop 222 for receiving a reference frequency signal from generator 218 and a signal output from a voltage controlled oscillator within 222 and for generating a control voltage 454 and 457 for controlling the frequency of the signal output from the voltage controlled oscillator; however, Lim does not specifically disclose wherein an LC resonance circuit including an inductor and a capacitor, wherein a capacitance of the capacitor is adjusted using the control voltage provided by the phase locked loop to thereby change a resonance frequency of the LC resonance circuit.

Komori however discloses disclose wherein an LC resonance circuit including an inductor and a capacitor, wherein a capacitance of the capacitor is adjusted using the control voltage provided by the phase locked loop to thereby change a resonance frequency of the LC resonance circuit. Fig.1

With respect to claim 12, Lim discloses the power amplifier 896 used in an RF transceiver, comprising: a phase locked loop 222 for receiving a reference frequency signal from reference signal generator 218 and a signal output from a voltage controlled oscillator within 222 and for generating a control voltage 454 and 457 for controlling the frequency of the signal output from the voltage controlled oscillator; however Lim does not disclose wherein an LC resonance circuit having a cascade structure having a

plurality of terminals and including an inductor and a capacitor, wherein a capacitance of the capacitor is adjusted using the control voltage provided by the phase locked loop to thereby change a resonance frequency of the LC resonance circuit and adjust the gain of the power amplifier.

Komori however discloses wherein an amplifier Fig.1 an LC resonance circuit having a cascade structure having a plurality of terminals and including an inductor and a capacitor, wherein a capacitance of the capacitor is adjusted using the control voltage provided by the phase locked loop to thereby change a resonance frequency of the LC resonance circuit, which can adjust the gain of the power amplifier.

It would have been obvious to one of ordinary skill in the art to implement the LC resonance circuit architecture to the power amplifier for the transmitting portion of the Lim receiver in order to properly adjust the gain of the output signal.

With respect to claim 19, Lim, Jerng, and Matero combined disclose the data transmitting method as claimed in claim 17 with power amplifier 894, however they do not specifically disclose wherein in a power amplifier having a cascade structure including a plurality of terminals, and including an LC resonance circuit having an inductor and a capacitor, (d) comprises: controlling a capacitance of the capacitor using the control voltage and changing a resonance frequency of the LC resonance circuit to control a gain of the power amplifier.

The Komori reference however discloses in Fig.1 wherein in a power amplifier having a cascade structure including a plurality of terminals, and including an LC resonance circuit having an inductor and a capacitor, (d) comprises: controlling a

capacitance of the capacitor using the control voltage and changing a resonance frequency of the LC resonance circuit to control a gain of the power amplifier.

It would have been obvious to one of ordinary skill in the art to implement the power amplifier of Komori and implement it at as the power amplifier in the transmission portion of the Lim transceiver in order to properly out the signal at the correct amplitude level.

7. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lim (US 6,993,314) in view of Jerng (US 2003/0114129).

With respect to claim 13, Lim discloses the RF transceiver, comprising: a phase locked loop 222 for receiving a reference frequency signal from reference signal generator 218 and a signal output from a voltage controlled oscillator within 222 and for generating a control signal 454 and 457 for controlling the frequency of the signal output from the voltage controlled oscillator; however Lim does not specifically disclose wherein the mixer comprises of a plurality of transistors, wherein at least one of the plurality of transistors operates as a current source, at least one of the plurality of transistors operates as a load, and an amount of current flowing from the transistor operating as the source to the transistor operating as the load is controlled using the control voltage from the phase locked loop.

The Jerng reference however specifically discloses wherein the mixer 49 in Fig.9 comprises of a plurality of transistors, wherein at least one of the plurality of transistors operates as a current source, at least one of the plurality of transistors operates as a

load, and an amount of current flowing from the transistor operating as the source to the transistor operating as the load is controlled using the control voltage from the phase locked loop [0039].

It would have been obvious to one of ordinary skill in the art to implement the mixer with the plurality of transistors as disclosed by Jerng within the receiver of Lim in order to implement a control voltage to the mixer from the phase locked loop module in order to operate correctly.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard Chan whose telephone number is (571) 272-0570. The examiner can normally be reached on Mon - Fri (9AM - 5PM).

9. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Urban can be reached on (571) 272-7899. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Quochien Bu Vuong 7/19/06

Richard Chan
Art Division 2618
07/12/06

QUOCHIEN B. VUONG
PRIMARY EXAMINER